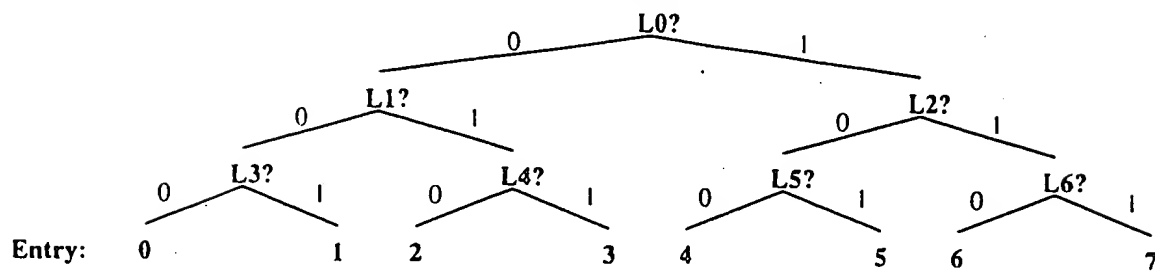


FIG. 1

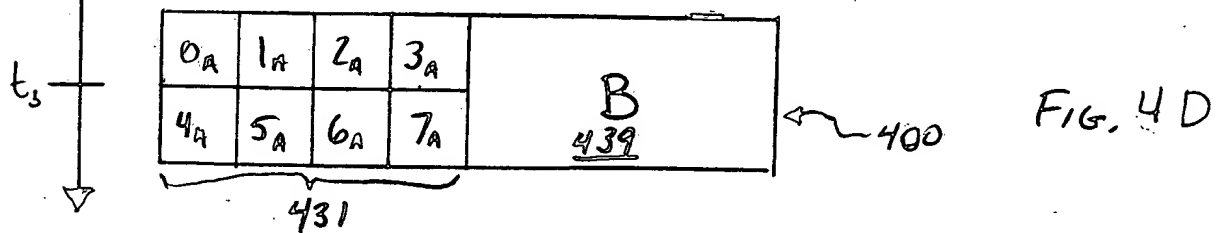
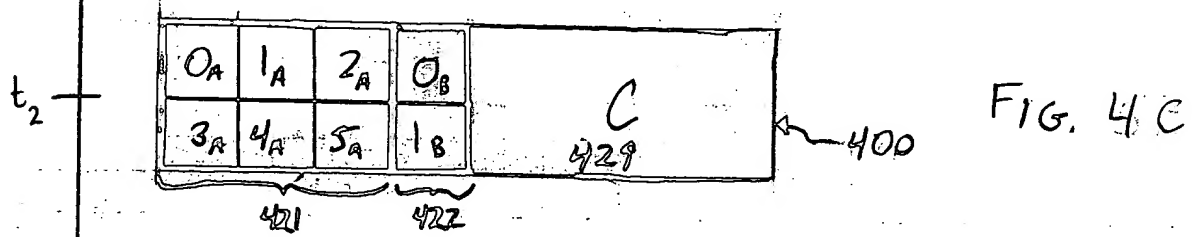
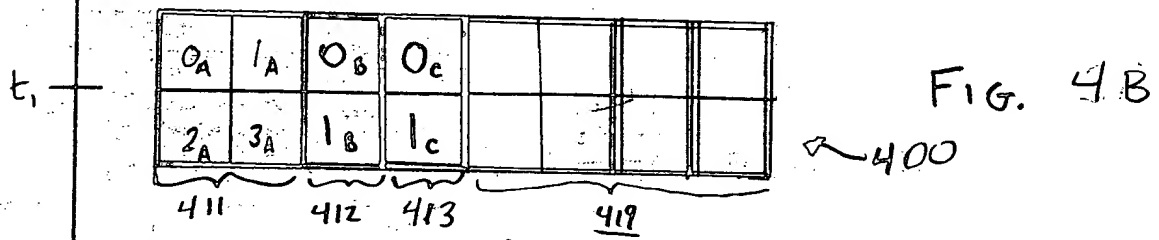
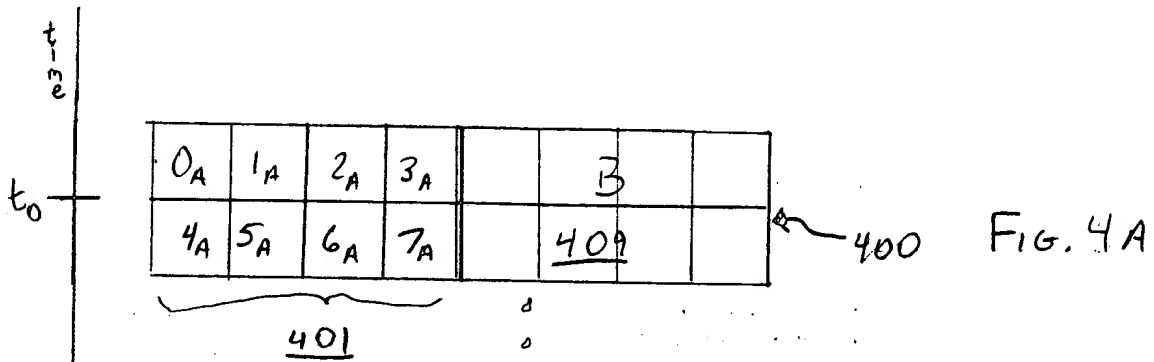
PSEUDO-LRU REPLACEMENT MECHANISM



PSEUDO-LRU UPDATE BASED ON ENTRY HIT

Entry hit	New LRU value						
	L0	L1	L2	L3	L4	L5	L6
0	1	1		1			
1	1	1		0			
2	1	0			1		
3	1	0			0		
4	0		1			1	
5	0		1			0	
6	0		0				1
7	0		0				0

FIG. 3



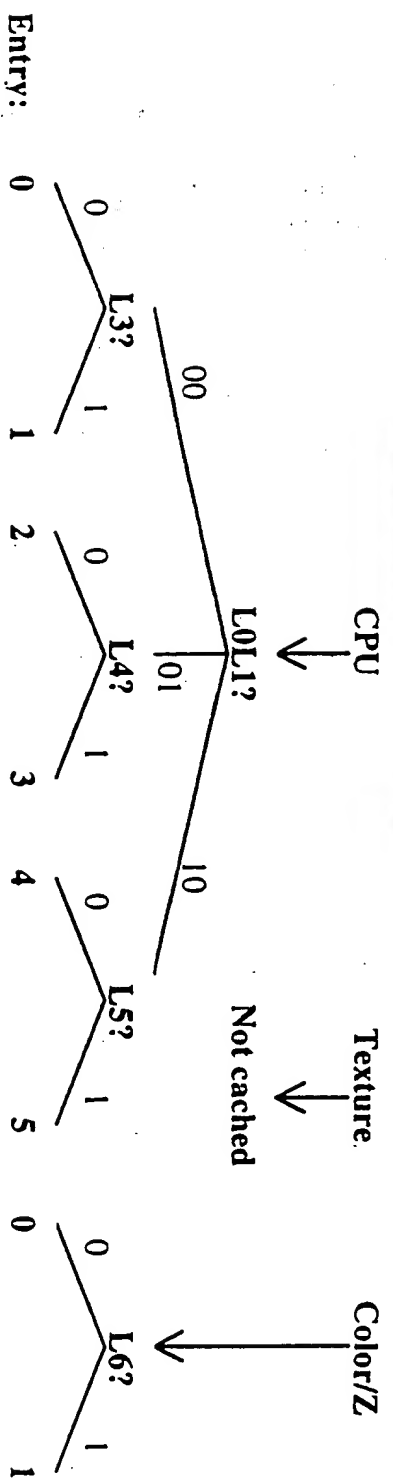


FIG. 5

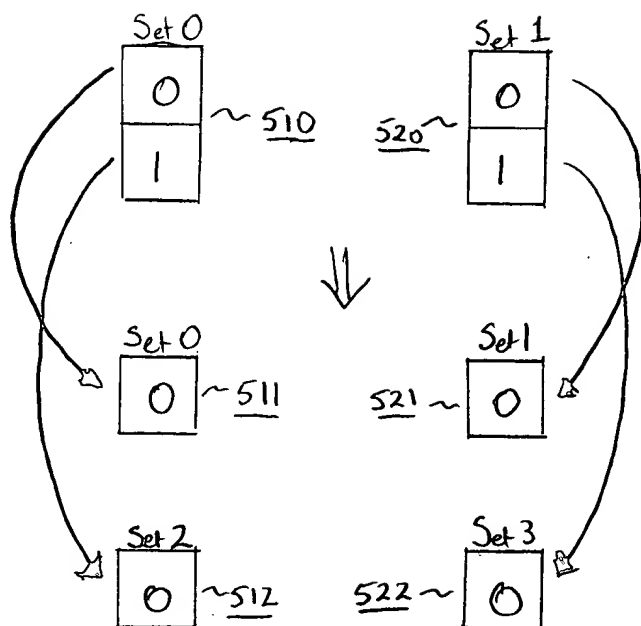
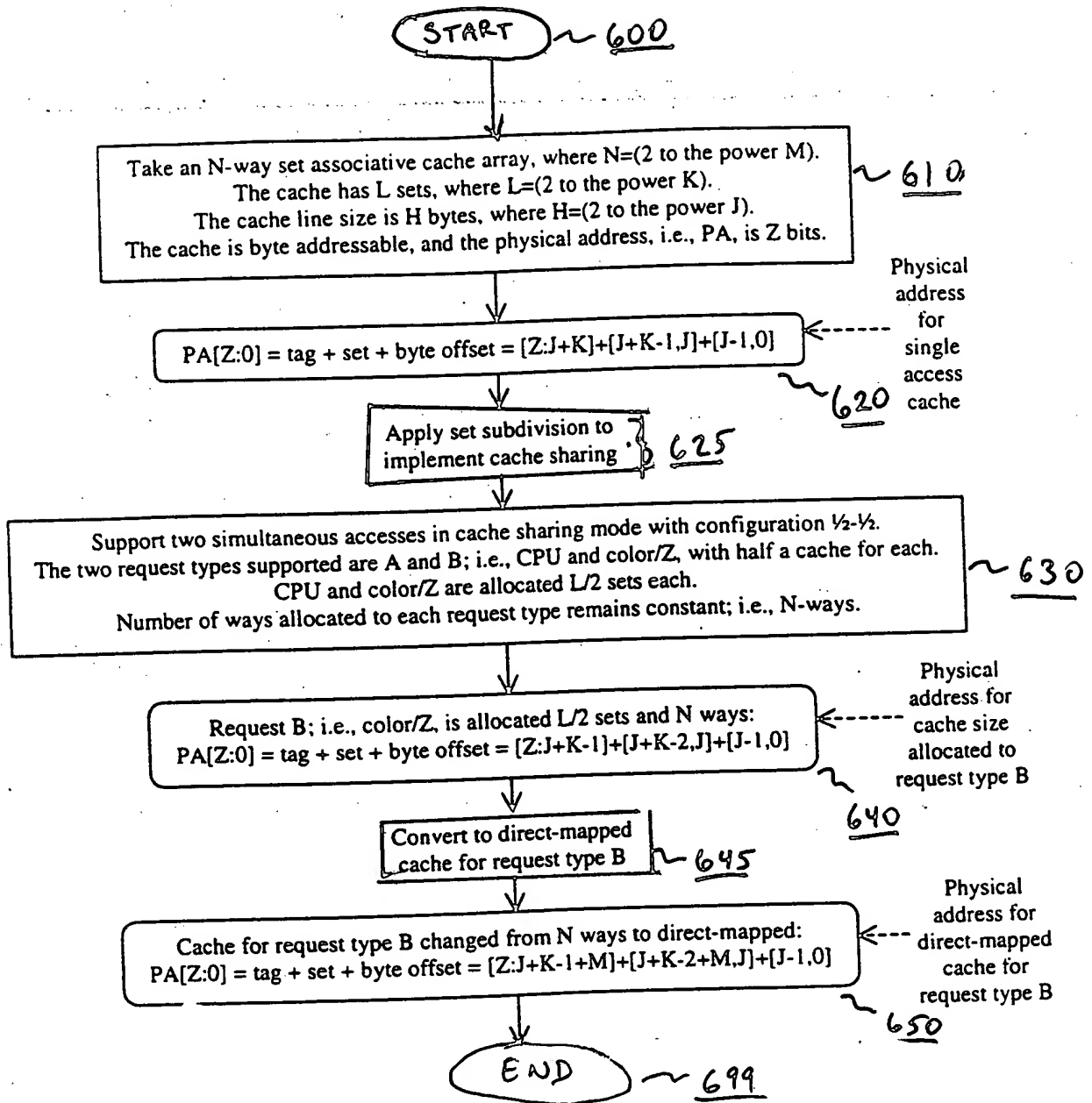


FIG. 6

500

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FIG. 7



MSB set address?

```
graph TD; Root(( )) ---|0| L1_0((L1?)); Root ---|1| L1_1((L1?)); L1_0 ---|0| L2_0((L2?)); L1_0 ---|1| L2_1((L2?)); L1_1 ---|0| L2_2((L2?)); L1_1 ---|1| L2_3((L2?)); L2_0 ---|0| L3_0((L3?)); L2_0 ---|1| L3_1((L3?)); L2_1 ---|0| L3_2((L3?)); L2_1 ---|1| L3_3((L3?)); L2_2 ---|0| L3_4((L3?)); L2_2 ---|1| L3_5((L3?)); L2_3 ---|0| L3_6((L3?)); L2_3 ---|1| L3_7((L3?)); L3_0 ---|0| E0[0]; L3_0 ---|1| E1[1]; L3_1 ---|0| E2[2]; L3_1 ---|1| E3[3]; L3_2 ---|0| E4[4]; L3_2 ---|1| E5[5]; L3_3 ---|0| E6[6]; L3_3 ---|1| E7[7];
```

Entry: 0 1 2 3 4 5 6 7

PSEUDO-LRU UPDATE BASED ON ENTRY HIT

Entry hit	New LRU value			
	MSB	L1	L2	L3
0	1	1	1	
1	1	1	0	
2	1	0		1
3	1	0		0
4	0	1	1	
5	0	1	0	
6	0	0		1
7	0	0		0

∞
 $\frac{1}{2}$
 $\frac{1}{4}$
 $\frac{1}{8}$